

CLAIMS

What is claimed is:

1. In a speech recognition system, a method of speech recognition comprising:
 - (a) receiving an input;
 - (b) automatically creating a context-enhanced database using information derived from said input;
 - (c) preparing a first output from a speech signal by performing a speech recognition task to convert said speech signal into said first output comprising computer-processable segments, wherein said context-enhanced database is accessed to improve the speech recognition rate;
 - (d) enabling editing of said output to generate a final voice-generated output;
 - and
 - (e) making said final voice-generated output available.
2. The method of claim 1, wherein said speech signal represents words and said words are processed separately during said speech recognition task by identifying a matching word in said context-enhanced database for each of said words, and adding said matching word to said first output.
3. The method of claim 1, wherein during said speech recognition task, said speech signals are analyzed.
4. The method of claim 2, wherein during said speech recognition task, said speech signals are analyzed.

- 1 5. The method of claim 2, wherein a second database is accessed to find a
2 matching word for each of said words for which no matching word was found in
3 said context-enhanced database.
- 1 6. The method of claim 1, wherein at least two steps selected from the group
2 consisting of steps (a), (b), (c), (d), and (e) are performed concurrently.
- 1 7. The method of claim 1, wherein said computer-processable segments are
2 processable words.
- 1 8. The method of claim 1, wherein said speech signal is interpreted as part of said
2 speech recognition task in light of words included in said context-enhanced
3 database.
- 1 9. The method of claim 1, wherein the said input is received from an application
2 program.
- 1 10. The method of claim 1, wherein said input is received from at least one of the
2 group consisting of an electronic mail, a history of electronic mails, a document
3 currently on a screen of the computer system, a chain of related documents,
4 linked documents, a folder, a directory, an attachment received with an
5 Electronic mail, a spread sheet, a cache memory of a computer system, history
6 information recorded by a web browser, a knowledge management system, an
7 incoming message, a received facsimile, and a result of a database search.
- 1 11. The method of claim 1, wherein said voice-generated output is generated based
2 upon a context defined by said context-enhanced database.

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12. The method of claim 1, wherein said voice-generated output is a physical output.

13. The method of claim 12, wherein said voice-generated output is temporarily put into a memory.

14. The method of claim 1, wherein said editing is enabled by highlighting words of said first output having a predetermined likelihood of misinterpretation of said speech signal.

15. The method of claim 1, wherein said context-enhanced database is derived from an existing database based upon said input.

16. The method of claim 1, wherein said context-enhanced database is dynamically generated.

17. The method of claim 1, wherein said context-enhanced database is dynamically updated.

18. The method of claim 1, wherein one or more of a synonym lexicon and a meaning variants database is accessed when preparing said voice-generated output.

19. A speech processing system comprising:
a first module, said first module automatically creating a context-enhanced database using information derived from an input;
a speech recognition system, said speech recognition system converting a speech signal into segments that are processable by said speech recognition system,

wherein said context-enhanced database is accessed to find matching segments for said segments;

a second module, said second module preparing an output comprising said matching segments; and

a third module, said third module enabling editing of said output to generate a final voice-generated output, and for making said final voice-generated output available.

20. The system of claim 19, wherein said input is received from at least one of the group consisting of an electronic mail, a history of electronic mails, a document currently on a screen of a computer system, a chain of related documents, linked documents, a folder, a directory, an attachment received with an electronic mail, a spread sheet, a cache memory of a computer system, history information recorded by a web browser, a knowledge management system, an incoming message, a received facsimile, and a result of a database search.

21. The system of claim 19, wherein said speech recognition system processes words separately by identifying a matching word in said context-enhanced database for each of the words, and adding said matching word to said output.

22. The system of claim 19, wherein the speech recognition system analyzes said speech signals.

23. The system of claim 19, comprising a second database, wherein said second database is accessible if no matching word is available in said context-enhanced database.

24. The system of claim 19, comprising a fourth module that derives said input from an application program.

- 1 25. The system of claim 19, wherein said voice-generated output is generated based
2 upon a context defined by said context-enhanced database.
- 1 26. The system of claim 19, wherein said voice-generated output is a physical
2 output.
- 1 27. The system of claim 19, further comprising a memory for storing said voice-
2 generated output.
- 1 28. The system of claim 19, further comprising a fifth module that enables said
2 editing of said output.
- 1 29. The system of claim 19, further comprising a database from which said context-
2 enhanced database is derived.
- 1 30. The system of claim 19, further comprising a synonym lexicon which is linked
2 when used.
- 1 31. The system of claim 19, further comprising a meaning variants database which is
2 linked when used.
- 1 32. The system of claim 19, wherein said first module for automatically creating a
2 context-enhanced database is a pre-processing module.
- 1 33. The system of claim 19, further comprising a meaning extraction system.
- 1 34. The system of claim 21, wherein said speech recognition system analyzes said
2 speech signals.

35. The system of claim 21, comprising a second database, wherein said second database is accessible if no matching word is available in said context-enhanced database.

36. The system of claim 21, comprising a fourth module that derives said input from an application program.

37. The system of claim 21, wherein said voice-generated output is generated based upon a context defined by said context-enhanced database.

38. The system of claim 21, wherein said voice-generated output is a physical output.

39. The system of claim 21, further comprising a memory for storing said voice-generated output.

40. The system of claim 21, further comprising a fifth module that enables said editing of said output.

41. The system of claim 21, further comprising a database from which said context-enhanced database is derived.

42. The system of claim 21, further comprising a synonym lexicon which is linked when used.

43. The system of claim 21, further comprising a meaning variants database which is linked when used.

1 44. The system of claim 21, wherein said first module for automatically creating a
2 context-enhanced database is a pre-processing module.

1 45. The system of claim 21, further comprising a meaning extraction system.

1 46. A machine-readable storage, having stored thereon a computer program having
2 a plurality of code sections executable by a machine for causing the machine to
3 perform the steps of:

- 4 (a) receiving an input;
5 (b) creating a context-enhanced database using information derived from said
6 input;
7 (c) performing a speech recognition task to convert a speech signal into a first
8 output comprising computer-processable segments, wherein said context-enhanced
9 database is accessed in order to improve the speech recognition rate;
10 (d) enabling editing of said output to generate a final voice-generated output;
11 and
12 (e) making said final voice-generated output available.

1 47. The machine-readable storage of claim 46, wherein said speech signal
2 represents words and said words are processed separately during said speech
3 recognition task by identifying a matching word in said context-enhanced
4 database for each of said words, and adding said matching word to said first
5 output.

1 48. The machine-readable storage of claim 46, wherein during said speech
2 recognition task, said speech signals are analyzed.

- 1 49. The machine-readable storage of claim 47, wherein during said speech
2 recognition task, said speech signals are analyzed.
- 1 50. The machine-readable storage of claim 47, wherein a second database is
2 accessed to find a matching word for each of said words for which no matching
3 word was found in said context-enhanced database.
- 1 51. The machine-readable storage of claim 46, wherein at least two steps selected
2 from the group consisting of steps (a), (b), (c), (d), and (e) are performed
3 concurrently.
- 4 52. The machine-readable storage of claim 46, wherein said computer-processable
5 segments are processable words.
- 6 53. The machine-readable storage of claim 46, wherein said speech signal is
1 interpreted as part of said speech recognition task in light of words included in
2 said context-enhanced database.
- 3 54. The machine-readable storage of claim 46, wherein the said input is received
4 from an application program.
- 5 55. The machine-readable storage of claim 46, wherein said input is received from at
6 least one of the group consisting of an electronic mail, a history of electronic
mails, a document currently on a screen of the computer system, a chain of
related documents, linked documents, a folder, a directory, an attachment
received with an electronic mail, a spread sheet, a cache memory of a computer
system, history information recorded by a web browser, a knowledge

7 management system, an incoming message, a received facsimile, and a result of
8 a database search.

1 56. The machine-readable storage of claim 46, wherein said voice-generated output
2 is generated based upon a context defined by said context-enhanced database.

1 57. The machine-readable storage of claim 46, wherein said voice-generated output
2 is a physical output.

1 58. The machine-readable storage of claim 57, wherein said voice-generated output
2 is temporarily put into a memory.

1 59. The machine-readable storage of claim 46, wherein said editing is enabled by
2 highlighting words of said first output having a predetermined likelihood of
3 misinterpretation of said speech signal.

1 60. The machine-readable storage of claim 46, wherein said context-enhanced
2 database is derived from an existing database based upon said input.

1 61. The machine-readable storage of claim 46, wherein said context-enhanced
2 database is dynamically generated.

1 62. The machine-readable storage of claim 46, wherein said context-enhanced
2 database is dynamically updated.

1 63. The machine-readable storage of claim 46, wherein one or more of a synonym
2 lexicon and a meaning variants database is accessed when preparing said voice-
3 generated output.